Year 4 maths: Time units and rates (Hard)

Maths · Measurement
Level: Hard

Student: _____ Date: _____

Instructions
- There are 10 questions. Read each one carefully.
- Write your answers on this paper. Use the space under a question to work it out.
- A grown-up can read a question aloud — that's fine.
- The answers are at the end. Check them together when you have finished.

Questions

1. A tap drips once every 5 seconds. The first one is 5 seconds after the start. Each drop is 3 mL. How much water drips in 1 hour?

Circle one answer.

○ **A** 54 000 mL ○ **B** 720 mL ○ **C** 36 mL ○ **D** 2160 mL ○ **E** 1080 mL

2. A pump fills a pool at 15 L every minute. How many litres does it pump in 1 hour 20 minutes?

Answer: ☐ L

Working:

3. A watering can holds 4 L. A tap fills it at 250 mL every 10 seconds. How many seconds does it take to fill the can?

Answer: ☐ seconds

Working:

4. A security light blinks once every 4 seconds. The first one is 4 seconds after the start. How many times does it blink in a quarter of an hour?

Answer: ☐ times

Working:

5. Two taps fill a 150 L bath. One gives 6 L every minute and the other gives 4 L every minute. With both on, how long does it take?

Circle one answer.

○ **A** 10 minutes
○ **B** 37 minutes 30 seconds
○ **C** 25 minutes
○ **D** 15 minutes
○ **E** 1500 minutes

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6. A machine wraps 25 chocolates every minute. How many does it wrap in 2 hours?

Answer: ☐ chocolates

Working:

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7. Two machines at a juice factory each fill 7 bottles a minute. How many bottles do they fill together in three quarters of an hour?

Circle one answer.

○ **A** 42 ○ **B** 54 ○ **C** 210 ○ **D** 315 ○ **E** 630

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8. Oliver's watch gains 4 minutes every hour. He sets it right at 7:00 am. What time does the watch show at 4:30 pm that day?

Circle one answer.

○ **A** 5:08 pm ○ **B** 5:06 pm ○ **C** 3:52 pm ○ **D** 5:10 pm
○ **E** 4:34 pm

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9. A clock in the school hall loses 5 minutes every 2 hours. It is set right at 7:00 am. What time does it show at 3:00 pm?

Circle one answer.

○ **A** 2:50 pm ○ **B** 2:40 pm ○ **C** 3:20 pm ○ **D** 2:20 pm
○ **E** 2:55 pm

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10. A cyclist rides 1800 m in 3 minutes at a steady speed. How far does she ride in 50 seconds?

Circle one answer.

○ **A** 30 000 m ○ **B** 10 m ○ **C** 500 m ○ **D** 300 m
○ **E** 600 m

Answer key

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1. D — 2160 mL

1 hour = 3600 seconds. 3600 ÷ 5 = 720 drops. 720 × 3 mL = 2160 mL.

2. 1200 L

1 hour 20 minutes = 80 minutes. 80 × 15 = 1200 L.

3. 160 seconds

4 L = 4000 mL. 4000 ÷ 250 = 16 lots of 10 seconds = 160 seconds.

4. 225 times

A quarter of an hour = 15 minutes = 900 seconds. 900 ÷ 4 = 225.

5. D — 15 minutes

Together they give 6 + 4 = 10 L every minute. 150 ÷ 10 = 15 minutes.

6. 3000 chocolates

2 hours = 120 minutes. 120 × 25 = 3000 chocolates.

7. E — 630

Three quarters of an hour is 45 minutes. Together they fill 7 + 7 = 14 bottles a minute. 14 × 45 = 630.

8. A — 5:08 pm

7:00 am to 4:30 pm is 9½ hours. 9 × 4 = 36, and half an hour gains 2 more: 38 minutes fast. 4:30 + 38 minutes is 5:08 pm.

9. B — 2:40 pm

7 am to 3 pm is 8 hours: that is 4 lots of 2 hours. 4 × 5 = 20 minutes slow. 20 minutes before 3:00 is 2:40 pm.

10. C — 500 m

3 minutes = 180 seconds. 1800 ÷ 180 = 10 m every second. 50 × 10 = 500 m.